

**Statement of
Adam Darkins, MD, MPHM
Chief Consultant for Care Coordination
Veterans Health Administration
Department of Veterans Affairs
Before the
Sub-Committee on Health
Committee on Veterans' Affairs
U.S. House of Representatives**

May 18, 2005

Mr. Chairman and Members of the Subcommittee:

It is an honor for me to be here before the Subcommittee today and to address the Subcommittee members' interest in VA's use and development of telemedicine. I would like to personally thank the Subcommittee for focusing attention on this important area.

By definition, telemedicine involves the use of information and telecommunications technologies to deliver care when patient and practitioner are separated by distance and/or time. Analyses of healthcare delivery, such as those by the Institute of Medicine, now cite VA as an exemplar that other healthcare organizations should emulate when using health information technology to improve the quality of care and resolve endemic concerns about patient safety. VA's application of this technology enables more care to be provided to veteran patients with proportionally fewer resources and in doing so helps VA set benchmarks for levels of patient satisfaction and achieve outstanding scores on 18 quality indicators for disease prevention and treatment. VA's telemedicine initiatives build upon this self-same health information technology platform to help provide the right care in the right place at the right time to the veteran patients whom it is VA's privilege to serve.

The rationale for VA's ongoing development of a robust and sustainable technology infrastructure for telemedicine is focused on using this resource to help meet high-priority areas of health care need in the veteran population. Dedicated health care practitioners in VA often find themselves challenged when providing care because the health care needs of a diverse and geographically

distributed veteran population are changing. Increasingly, this population presents practitioners with chronic conditions that need ongoing monitoring and management.

In common with other healthcare organizations, VA has a finite set of physical locations from which it can provide traditional face-to-face encounters to treat veteran patients. This restriction necessitates practitioners having to make trade-offs between access, quality, and cost, especially if patients live in rural areas and if they have problems with mobility.

These challenges are further compounded by difficulties with the recruitment and retention of practitioners in rural areas. Solving what could otherwise become an insoluble equation, in relation to providing timely and appropriate care cost-effectively, is stimulating telemedicine implementation at the local VA Medical Center level and is the reason for the programmatic imperatives VA is placing on supporting telemedicine at the national and Veteran Integrated Service Network (VISN) level. VA has experience of piloting the delivery of care using telemedicine in 32 clinical areas. However, in my testimony today, I would like to highlight five major areas of national telemedicine development that show how telemedicine addresses pressing patient care needs.

Home Tele-health

The first area of need that drives telemedicine in VA that I would like to highlight is home-telehealth. As they age, veteran patients mirror the general Medicare population in that they are living longer, remaining healthier, and choosing, when possible, to continue living in their own homes. The homes and local communities that veterans fought to protect in times of war remain equally dear to them as they age and confront new adversaries in the form of chronic disease such as diabetes and chronic heart failure. In July 2003, VA instituted a national program to enhance and extend care and case management using home-telehealth, thereby providing a flexible and patient-centric approach to the delivery of non-institutional care.

VA currently provides home tele-health to 5,800 patients in 21 VISNs, and these numbers are set to reach 12,500 patients by the end of FY 2005. To support this care, VA has developed a national home-telehealth infrastructure that is being interfaced with VA's computerized patient record system (CPRS). The CPRS complements VA's approach to managing patients with chronic conditions via home-telehealth. Typically, these are patients who previously had several volumes of paper charts. The charts were often difficult to find because these patients have multiple unscheduled clinic visits that took the chart elsewhere. Even if paper records are readily available, the ability of a practitioner to rapidly and accurately obtain this information during an unscheduled clinic visit or emergency room attendance is often compromised by the volume and unwieldy nature of paper-bound information in such complex care patients. With a computerized patient record, the significance of changes in vital sign data such as pulse, weight, blood pressure, and other readily monitored indices such as blood glucose can be rapidly interpreted and the appropriate care instituted. Simply stated, the right information must be in the right place at the right time if the right care is to be provided to the right patient. The outcomes of VA's Care Coordination Home-Telehealth show that these programs enable veterans to remain living independently in their place of residence, reduce the need for hospital admissions and emergency room visits, and are associated with high levels of patient satisfaction.

Tele-mental Health

The next area of I would like to cover is tele-mental health. Clinical studies in VA have confirmed that the use of tele-mental health results in comparable outcomes to receiving care in traditional face-to-face clinic settings. This care is typically provided using real-time video-conferencing to support the clinical interaction between patient and practitioner. Tele-mental health is able to support the delivery of both general and specialist mental health care in VA's community-based outpatient clinics (CBOC). Tele-mental health can assist VA in meeting the challenges presented by the high incidence and prevalence of

mental-health conditions in veteran patients and, in doing so, make this care more accessible to these patients by reducing the need for travel.

Tele-mental health in VA is currently taking place in 228 sites, of which 120 are CBOCs, 74 are VA medical centers (VAMCs), 20 Vet Centers, and 14 home-telehealth programs. In FY 2004, VA provided direct care through telemedicine to over 10,000 patients and this constituted over 20,000 episodes of care. VA has a lead clinician for telemental-health who coordinates these developments in close association with VISN mental health leads and the Mental Health Strategic Healthcare Group in VA Central Office. Tele-mental health activity in VA is anticipated to expand by an estimated 20 percent in FY 2005 to enable greater delivery of specialist mental health care to CBOCs.

Tele-retinal imaging

Next I would like to turn to another crucial area of health need within the veteran population. Twenty percent of the veteran population VA treats has diabetes and a common and avoidable complication of diabetes, visual impairment. VA currently outperforms the commercial managed-care sector in screening for diabetic eye disease. Maintaining and exceeding current rates of screening for diabetic eye disease has been the rationale for VA in exploring the use of tele-retinal imaging to detect diabetic eye disease.

In partnership with the Department of Defense and the Joslin Vision Network in Boston, VA piloted tele-retinal imaging programs in six sites since FY 2000. A consensus meeting in September 2001 helped define the scope for the initial piloting of this technology in routine clinical practice in that it could not replace a comprehensive eye exam and was only suitable to assess for diabetic retinopathy.

The clinical success of these pilots and other tele-retinal imaging programs has provided VA with evidence that tele-retinal imaging can facilitate retinal screenings of VA's growing diabetic population. VA plans to implement the widespread use of tele-retinal imaging to screen for diabetic eye disease in FY 2005 and FY 2006 and anticipates that up to 75,000 veterans with diabetes

may benefit from this program nationally. This program will use store-and-forward technology, whereby digital retinal images are sent to designated reading centers for reporting.

Tele dermatology

Another area of telemedicine that uses store-and-forward technology that I would like to briefly consider is tele dermatology. Skin disease is a significant cause of discomfort and morbidity in both the veteran and general population. Dermatology is a shortage specialty especially in rural areas.

For this reason, the VAMC in Togus, Maine, became a pioneer in the use of tele dermatology in the late 1990's. A highly successful tele dermatology service was established between Togus VAMC and the VAMC in Providence, Rhode Island, which is an ongoing source of care to veterans in rural Maine. VA has subsequently shown that the use of tele dermatology can result in treatment being initiated earlier than for patients receiving usual care, and diminish the need for a subsequent face-to-face dermatology clinic appointment.

Tele dermatology is cost-effective in decreasing the time required for patients to reach a point of initial definitive care. VA has identified a clinician lead, a research lead, and a field telehealth coordinator for tele dermatology who continues to refine and develop tele dermatology services in VA.

Telerehabilitation

A critical area of current telemedicine development in VA is tele-rehabilitation. This new technology is supporting veterans who have had spinal cord injury, veterans suffering from multiple sclerosis, and combat-wounded veterans from Operations Enduring Freedom and Iraqi Freedom. The benefits of telemedicine to these combat-wounded veterans highlights the positive role telemedicine can play.

VA has established four national poly-trauma centers to care for combat-wounded veterans who are transferred to VA after receiving care in specialist military treatment facilities. The poly-trauma centers take these patients, who

often have had head injuries, eye traumas, amputations, and post-traumatic stress disorder, and prepare them to return home.

Let me give you the hypothetical example of a combat-wounded veteran with a complex prosthetic limb that enables a return to an active lifestyle. The challenge presents when this veteran returns home to a remote rural part of the United States. If this veteran has a problem and needs care, it is unlikely that a practitioner in a CBOC or small VAMC will have the expertise to address the constellation of injuries. This expertise will not be available in the private sector locally. The dilemma this presents is that the veteran may be unnecessarily transferred back to a VA poly-trauma center or specialist military treatment facility with all the attendant inconvenience to the patient together with disruptions to work and family, in addition to incurring avoidable cost to VA.

To address this dilemma, in FY 2005, VA is linking current rehabilitation capacity at the local level to the specialist expertise in various areas. Telemedicine is being introduced across the continuum of care to ensure that combat-wounded heroes stay in close touch with specialist care in the Polytrauma Centers as VA works to return them to their homes. Furthermore, VA has been working since 1999 to use telehealth services to enhance the care and home-based rehabilitation of patients with spinal cord injuries. VA is also working towards building a specialist referral network for rehabilitation that will connect its multiple-sclerosis centers of excellence on the West and East coasts with smaller VHA facilities to provide this specialist expertise at a local level.

Telesurgery

Given my earlier emphasis on chronic conditions, VA's development of telesurgery may seem somewhat surprising. However, there are many parts of the United States where rising property prices have meant veterans have sold their homes or have difficulty finding rental accommodation. Consequently, many veterans are moving to other areas of states that are remote from VA's large fixed sites of care where their surgery may be performed.

VA's development of tele-surgery is, therefore, taking place to establish telemedicine links to enable remote evaluation of veteran patients, both prior to surgery and post-operatively. These specialist clinics either save patients from traveling long-distances to specialist centers or specialist surgeons from having to travel to remote clinics, which hinders them from seeing other patients during this period of travel.

Telemedicine – The Future

In all of the five areas of care I have just covered, a consistent theme has been how telemedicine increases access to care for veteran patients who live in rural locations. A specific example of the benefits telemedicine can bring relates to the VAMC in Iron Mountain, Michigan. In the late 1990s, when the pathologist at the Iron Mountain VAMC retired, it was difficult to replace this clinician. This placed at risk those services that required pathology support in Michigan's Upper Peninsula and northeastern Wisconsin. VA resolved this problem using tele-pathology within a five-state telehealth network in VISN 12 that integrates data, voice, video, and imaging systems -- thereby creating one of the largest specialty care telehealth networks in the US. This network enables primary diagnosis and consultation in surgical pathology, interpretation of serum protein electrophoresis and immunofixation gels, provision of support for consolidated microbiology laboratories, review of problematic peripheral blood smears, and distance learning. Telemedicine is able to help prevent the loss of mission critical services, which can pose a threat to the sustainability of services in rural areas.

The evidence-base to support telemedicine in VA is growing. Typically evidence about new health care lags behind clinical practice by five years, and it can take 15 years for established evidence to be introduced into clinical practice. VA is introducing telemedicine where there is evidence that it is safe and effective and is using it to meet areas of high priority need in the veteran population. VA researchers have published more than 50 peer-reviewed articles published in this area since the early 1990's.

VA's Quality Enhancement Research Initiative (QUERI) explicitly looks at the issues of translating important clinical and health research findings into everyday practice. This approach allows VA to accelerate the rate of change in critical areas where research findings could have significant system wide impact. The QUERI is addressing the implementation of telemedicine with a particular emphasis on home-telehealth.

VA has lead practitioners in the areas of home telehealth, telemental health, teledermatology, telesurgery, teleophthalmology, teleoptometry, and telerehabilitation. The role of these practitioners is to develop toolkits that standardize telemedicine practice across VA, and act as clinical champions. The importance of standardizing telemedicine practice to VA is three-fold. First, it facilitates telemedicine development. Second, it enables systematic outcomes analysis and research to take place. Third, it means that veteran patients receive consistent care via telemedicine across the system.

VA established a training center for care coordination home telehealth in Lake City, Florida in January 2004. This center has trained over 1,100 staff since then using distance education technologies, and 1500 through face-to-face teaching methods. In FY 2005, VA expects to establish a general telemedicine training center in Salt Lake City, Utah, and a training center for teleretinal imaging in Boston, Massachusetts. All these centers have connections with academic centers and will produce designated curricula for telemedicine training that will ensure that practitioners receive appropriate training. Training is a key element to sustaining telemedicine in VA. Without a telemedicine-competent workforce, key services to veteran patients in remote areas could be vulnerable.

VA has robust cross-federal partnerships with the Department of Defense and with the Department of Health and Human Services (HSS). A recent meeting of the IHS/VHA steering group in Albuquerque identified a joint-working group between IHS and VA on Care Coordination as a priority. VA is a member of the Joint Working Group on Telehealth, a Federal interagency group that coordinates members' telehealth activities. These partnerships reinforce the finding that robust business processes to code, provide workload credit, and fund

telemedicine from routine operational sources are as vital an ingredient in the successful implementation of telemedicine as are the clinical science and technology infrastructure. VA is implementing systematic coding systems for telemedicine in FY 2005 and FY 2006. VA is working with national accreditation bodies to ensure that telemedicine programs are recognized as part of routine care delivery.

In concluding, I would like to mention that VA is now recognized as a leader in the field of telemedicine as it is in other areas relating to the clinical use of health information technologies. The work that I have highlighted today attests to VA's leadership in this area and is the product of collaborative relationships within and outside VA. The benefits of telemedicine are that it can help coordinate care across the continuum of care and bridge barriers of distance and geography that hinder delivery of care. In accomplishing this, telemedicine connects across parts of the organization in VA to draw upon existing strengths and has not been associated with the creation of a new silo of care. I am proud to be associated with an organization and colleagues with a unique mission to deliver care to veterans.

To complete this first panel session, I would like to introduce Dr. Ross Fletcher who is the Chief of Staff at the Washington DC VA Medical Center. Dr. Fletcher is also the Director of the nationwide Veterans Affairs registry for the Pacemaker and Defibrillator Surveillance Center. Dr. Fletcher was involved in the development of VA's computerized patient record. Dr. Fletcher will provide a practical demonstration of how the use of home-telehealth and care coordination impacts on the care of patients and is truly delivering the right care in the right place at the right time.

Following Dr. Fletcher's demonstration, he and I will be happy to answer any questions the members of the Subcommittee might have.